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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/678,296      | 10/03/2000  | Toru Koizumi         | 35.C14851           | 5740             |

5514 7590 12/22/2005

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| EXAMINER |
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AGGARWAL, YOGESH K

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| ART UNIT | PAPER NUMBER |
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2615

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/678,296

Applicant(s)

KOIZUMI, TORU

Examiner

Yogesh K. Aggarwal

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 31-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Response to Arguments***

1. Applicant's arguments with respect to claims 31-37 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 31 and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guidash (US Patent # 6,657,665) in view of Kinoshita et al. (US Patent # 4,870,495).

[Claim 31]

Guidash teaches a method of driving a solid image pickup device comprising a photoelectric conversion unit (figure 1, element PD), a charge-voltage conversion unit (figure 1, element FD) for converting electric charges from the photoelectric conversion unit into voltage signals, a signal amplification means (figure 1, element SIG) for amplifying the voltage signals generated in the charge-voltage conversion unit, and a charge transfer means (figure 1, element TG) for transferring photoelectric charges from the photoelectric conversion unit to the charge-voltage conversion unit (figure 1, element FD).

Guidash fails to teach performing a primary transfer operation of transferring a part of the photoelectric charges accumulated in the photoelectric conversion unit during a charge accumulation period, from the photoelectric conversion unit to the charge-voltage conversion unit and performing at least one other transfer operation prior to a subsequent charge

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accumulation period, to transfer remaining photoelectric charges from the photoelectric conversion unit to the charge-voltage conversion unit, wherein the photoelectric conversion unit is not reset prior to the at least one other transfer operation.

However Kinoshita et al. teaches that charges are transferred from a photoelectric conversion device to a transfer channel (read as a transfer means) by supplying pulses to transfer electrodes such that the transfer operation is executed a plurality of times, so that the charge transfer is reliably carried out (col. 6 lines 31-35). Therefore it is noted that by transferring the charges plural times, there will a primary readout operation to transfer a part of the charges and at least one other transfer operation to completely transfer charges from the photoelectric portion.

Therefore taking the combined teachings of Guidash and Kinoshita, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have transferred charges from a photoelectric conversion device to a transfer channel (read as a transfer means) by supplying pulses to transfer electrodes such that the transfer operation is executed a plurality of times as taught in Kinoshita into a charge-voltage conversion unit for converting electric charges from the photoelectric conversion unit into voltage signals of Guidash in order to reliably transfer charges that prevents the occurrence of blooming.

[Claim 33]

Guidash '665 teaches an intermediate readout operation by performing the resetting of the charge-voltage conversion part and reading out output signals amplified by the amplification means to the signal output line (col. 3 line 33-col. 4 line 23, figure 3b).

[Claim 34]

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Claim 34 is an apparatus claim corresponding to method claim 31. Therefore it has been analyzed and rejected based on method claim 31.

[Claim 35]

Guidash discloses an embedded type photodiode used for photoelectric conversion unit (figure 1, PD).

[Claims 36 and 37]

Guidash in view of Kinoshita teach the solid-state image pickup device of claim 34 and a signal processing circuit for processing output signals from the solid image pickup device (figure 2 of Kinoshita). Kinoshita also teaches an optical system (figure 2, element 5) for focusing for focusing a ray of light to the solid-state image pickup device.

4. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guidash (US Patent # 6,657,665), Kinoshita et al. (US Patent # 4,870,495) and in further view of Merrill (US Patent # 5,892,541).

[Claim 32]

Guidash in view of Kinoshita teach the limitations of claim 31 but fails to teach wherein the output signals readout from the charge-voltage conversion unit obtained by the division and the readout are individually retained and a horizontal scan is carried out after adding the output signals or while adding the output signals. However Merrill teaches wherein the output signals readout from the charge-voltage conversion unit obtained by the division and the readout are individually retained (col. 8 lines 51-54) and a horizontal scan is carried out after adding the output signals or while adding the output signals (col. 9 lines 30-36).

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Therefore taking the combined teachings of Guidash, Kinoshita and Merrill it would have been obvious to one skilled in the art to have been motivated to have signals readout from the charge-voltage conversion unit obtained by the division and the readout are individually retained and a horizontal scan is carried out after adding the output signals or while adding the output signals in order to increase the dynamic range.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA  
December 20, 2005

  
**DAVID OMETZ**  
SUPERVISORY PATENT EXAMINER